

**WHAT IS CLAIMED IS:**

- 1 1. A method comprising the steps of:  
2       determining a power mode for a device;  
3       disabling a phase locked loop and providing an oscillator signal to drive a clock line when in  
4       a first power mode; and  
5       providing the oscillator signal to an input of the phase locked loop and providing a locked  
6       signal from an output of the phase locked loop to the clock line when in a second  
7       power mode.
- 1 2. The method as in Claim 1, wherein the device consumes less power in the first power mode than  
2       in the second power mode.
- 1 3. The method as in Claim 1, further including the step of suspending processing within the device  
2       when in a third power mode.
- 1 4. The method as in Claim 1, wherein the oscillator signal is generated through crystal oscillator.
- 1 5. The method as in Claim 1, wherein the oscillator signal is generated through an RC circuit.
- 1 6. The method as in Claim 1, wherein the output of the phase locked loop is coupled to a clock  
2       divider and an output associated with the clock divider is coupled to the clock line.

1 7. The method as in Claim 6, wherein:

2 the step of disabling the phase locked loop, when in the first power mode, includes providing  
3 the oscillator signal to the input of the clock divider; and

4 the step of providing the oscillator signal to the phase locked loop, when in the second  
5 power mode, includes providing the locked signal to the input of the clock divider.

1 8. The method as in Claim 1, wherein the step of disabling the phase locked loop, when in the first  
2 power mode, further includes providing reduced power, in comparison to an available power,  
3 to the device.

1 9. The method as in Claim 1, wherein the step of disabling the phase locked loop, when in the first  
2 power mode, further includes reducing, in comparison to a maximum number of bits used  
3 available, a number of bits used to represent multimedia data.

1 10. The method as in Claim 9, wherein the multimedia data includes video data.

1 11. The method as in Claim 9, wherein the multimedia data includes audio data.

1 12. The method as in Claim 9, wherein the step of providing the oscillator signal to the phase  
2 locked loop, when in the second power mode, further includes using the maximum number  
3 of bits used to represent multimedia data.

1 13. The method as in Claim 1, wherein the device includes a portable device.

1 14. The method as in Claim 13, wherein the portable device includes a personal digital assistant.

1 15. The method as in Claim 1, wherein the step of providing the oscillator signal to the phase  
2 locked loop, when in the first power mode, further includes reducing, in comparison to a  
3 maximum number of bits used available, a number of bits used to represent multimedia data.

1 16. The method as in Claim 15, wherein multimedia data includes video data.

1 17. The method as in Claim 15, wherein multimedia data includes audio data.

1 18. The method as in Claim 15, wherein the step of disabling the phase locked loop, when in the  
2 first power mode, further includes using the maximum number of bits used to represent the  
3 multimedia data.

1 19. The method as in Claim 1, wherein disabling the phase locked loop includes shutting off power  
2 used for driving the phase locked loop.

1 20. The method as in Claim 1, wherein providing the oscillator signal to drive a clock line includes  
2 coupling a line carrying the oscillator signal to the clock line.

1 21. The method as in Claim 1, wherein the step of determining the power mode includes identifying  
2 a number of pending instructions.

1 22. The method as in Claim 1, wherein the step of determining the power mode includes identifying  
2 types of pending applications.

1 23. The method as in Claim 1, wherein the step of determining the power mode includes identifying  
2 a change in display content.

1 24. A system comprising:

2 an oscillator having an input/output buffer, said oscillator to provide a source clock signal  
3 using said input output buffer;

4 a phase locked loop having a first input/output buffer coupled to the input output buffer of  
5 the oscillator, and a second input/output, said phase locked loop to provide a locked  
6 clock signal;

7 a first multiplexor having a first input/output buffer coupled to the input/output buffer of the  
8 oscillator, a second input/output buffer coupled to the second input output buffer of  
9 the phase locked loop and a third input/output buffer, said multiplexor to:

10 when in a first power mode, pass said source clock signal to said third  
11 input/output buffer; and

12 when in a second power mode, pass said locked clock signal to said third  
13 input/output buffer;

14 a first clock line coupled to the third input/output buffer of the first multiplexor.

1 25. The system as in Claim 24 further including:

2 a second multiplexor having a first input/output buffer coupled to the input/output buffer of  
3 the oscillator, a second input/output buffer coupled to the second input output buffer  
4 of the phase locked loop and a third input/output buffer, said multiplexor to:

5 when in a first power mode, pass said source clock signal to said third  
6 input/output buffer; and

7 when in a second power mode, pass said locked clock signal to said third  
8 input/output buffer;

9 a second clock line coupled to the third input/output buffer of the second multiplexor.

1 26. The system as in Claim 24, further including a first clock divider coupled between the first  
2 multiplexor and the first clock line, said first clock divider to provide a divided clock signal  
3 to the second clock line, wherein the divided clock signal is based on the locked clock signal,  
4 when in the first power mode, and based on the source clock signal, when in the second  
5 power mode.

1 27. The system as in Claim 24, wherein said oscillator includes a resister/capacitor circuit to  
2 generate said source clock signal.

1 28. The system as in Claim 25, wherein said oscillator includes a crystal oscillator to generate said  
2 source clock signal.

1 29. The system as in Claim 25, further including a power module, said power module to determine  
2 a current power mode.

1 30. The system as in Claim 29, further including an instruction buffer to store instructions to be  
2 processed.

1 31. The system as in Claim 30, wherein said power module determines said current power mode  
2 based on the fullness of said instruction buffer.

1 32. The system as in Claim 30, wherein said power module determines said current power mode  
2 based on a rate of change in a number of instructions in said instruction buffer.

1 33. The system as in Claim 30, wherein said power module determines said current power mode  
2 based on types of instructions in said instruction buffer.

1 34. The system as in Claim 29, wherein said current power mode is based on a change in display  
2 content.

1 35. The system as in Claim 24, wherein said first power mode is associated with a normal operation  
2 mode and said second power mode is associated with a reduced power mode.

1 36. A computer readable medium tangibly embodying a program of instructions to manipulate a  
2 system to:  
3 determine a power mode for the system;  
4 disable a phase locked loop and providing an oscillator signal to drive a clock line when in a  
5 first power mode; and  
6 provide the oscillator signal to an input of the phase locked loop and providing a locked  
7 signal from an output of the phase locked loop to the clock line when in a second  
8 power mode.

1 37. The computer readable medium as in Claim 36, wherein the system consumes less power in the  
2 first power mode than in the second power mode.

1 38. The computer readable medium as in Claim 36, wherein the program of instructions is further  
2 used to:  
3 represent multimedia data using a first number of bits, when in the first power mode; and  
4 represent multimedia data using a second number of bits, when in the second power mode,  
5 wherein the first number of bits are less than the second number of bits.

1 39. The computer readable medium as in Claim 38, wherein the multimedia data includes video  
2 data.

1 40. The computer readable medium as in Claim 38, wherein the multimedia data includes audio  
2 data.

1 41. The computer readable medium as in Claim 36, wherein the power mode determined is based  
2 on a number of pending instructions.

1 42. The computer readable medium as in Claim 36, wherein the power mode determined is based  
2 on a change in display content.

1 43. The computer readable medium as in Claim 36, wherein the power mode determined is based  
2 on a type of instructions stored in the instruction buffer.